

REMARKS

In this Response, claims 1, 9, 10, 13 and 15 are amended. Claim 21 is added. No new matter is introduced by the amendments. Please cancel claims 4 and 6, without prejudice. Accordingly, claims 1-3, 5 and 7-20 are pending in the present application. Applicants respectfully request reconsideration of the application in view of the above amendments and remarks made herein.

I. Claim Objections

Claims 9 and 10 are amended to correct the informalities noted by the Examiner. Withdrawal of the instant claim objections is respectfully requested.

II. Rejections Under 35 U.S.C. § 102

Claims 1-4, 8-11, 14 and 16-19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Application Publication No. 2002/0113936 to *Yanagawa et al.* (hereinafter "*Yanagawa*"). In this Response, claim 1 is amended to include the subject matter of canceled claims 4 and 6.

With respect to claim 1, Applicants respectfully submit that *Yanagawa* does not anticipate this claim because *Yanagawa* does not disclose "a first pixel electrode formed in a pixel area defined by intersections of the gate line and the data line, said first pixel electrode formed substantially parallel to the gate line", "a gate line formed on the substrate and extending in a first direction, wherein the gate line is bent at a positive or negative angle with respect to the direction of a rubbing direction on the substrate", and "the distance between the common signal line and the data line is shorter than the distance between the pixel signal line and the switching element".

In the Final Office Action, with respect to claim 1, the Examiner states: "*Yanagawa et al.* (US 2002/0113936) discloses in Figure 5 a liquid crystal display, comprising: a substrate; a gate line (element 2) formed on the substrate and extending in a first direction; a data line (element 3) intersecting the first direction; a first pixel electrode (element 5) formed in a pixel area defined by intersections of the gate line and the data line, said first pixel electrode formed substantially parallel to the gate line". Applicants

respectfully disagree and note that *Yanagawa* discloses in paragraph 47: "[e]ach pixel is defined in a region where two adjacent gate lines 2 and two adjacent drain lines 3 intersect. And each pixel includes ... a pixel electrode 5, a counter electrode 4A and a counter voltage line 4." *Yanagawa* discloses in Figure 5: gate line 2 extends in the X direction in the drawing and drain line 3 extends in the Y direction; counter electrodes 4A are arranged parallel with pixel electrodes 5; and pixel electrodes 5 extend at an angle with respect to the direction perpendicular to drain line 3. That is, pixel electrodes 5 extend *at an angle with respect to the X direction* in the drawing, whereas gate line 2 extends *in the X direction*.

Therefore, because pixel electrodes 5 extend *at an angle with respect to the X direction* in the drawing, whereas gate line 2 extends *in the X direction*, *Yanagawa* (Figure 5) does not teach or suggest "a first pixel electrode formed in a pixel area defined by intersections of the gate line and the data line, *said first pixel electrode formed substantially parallel to the gate line*", as in claim 1 (emphasis added). It is further submitted that *Yanagawa* does not disclose "a gate line formed on the substrate and extending in a first direction, *wherein the gate line is bent at a positive or negative angle with respect to the direction of a rubbing direction on the substrate*", as in claim 1 (emphasis added).

In the Final Office Action, with respect to claim 4, the Examiner states: "*Yanagawa et al.* further disclose in Figure 5 that the distance between the common signal line (element 4, the portion connecting all the common electrodes adjacent to the data line) and the data line (element 3, not shown but to the right of the pixel) is shorter than the distance between the pixel signal line (element Cadd, which is also part of element PSL) and the switching element (element TFT)." Applicants respectfully disagree and submit that the distance between elements 4 and 3 appears to be the *same* as the distance between elements Cadd and TFT in Figure 5. *Yanagawa* does not teach or suggest "the distance between the common signal line and the data line is shorter than the distance between the pixel signal line and the switching element", as in claim 1. Therefore, for at least the above reasons, *Yanagawa* does not anticipate claim 1. Withdrawal of the instant rejection is respectfully requested.

Moreover, Applicants submit that inasmuch as claims 2-3, 8-11, 14 and 16-19 are dependent on claim 1, and claim 1 is patentable over *Yanagawa*, claims 2-3, 8-11, 14 and 16-19 are patentable as dependent on a patentable independent claim. Withdrawal of the instant rejections is respectfully requested.

Withdrawal of the rejections under 35 U.S.C. § 102(b) is respectfully requested.

III. Rejections Under 35 U.S.C. § 103

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Yanagawa* in view of U.S. Patent No. 6,201,273, issued to *Wang et al.* (hereinafter "*Wang*"), for the reasons set forth on page 7 of the Final Office Action. Applicants incorporate by reference their arguments made above in connection with the rejection of claim 1 under 35 U.S.C. § 102(b). In regard to *Wang*, Applicants respectfully submit that it does not teach or suggest "a first pixel electrode formed in a pixel area defined by intersections of the gate line and the data line, said first pixel electrode formed substantially parallel to the gate line" and it does not teach or suggest "a gate line formed on the substrate and extending in a first direction, wherein the gate line is bent at a positive or negative angle with respect to the direction of a rubbing direction on the substrate", as in claim 1. Therefore, the deficiencies of *Yanagawa* are not cured. Therefore, for at least the above reasons, claim 1 is patentable and non-obvious over the combination of *Yanagawa* and *Wang*. Applicants submit that inasmuch as claim 7 is dependent on claim 1, and claim 1 is patentable and non-obvious over the cited references, claim 7 is patentable as dependent on a patentable independent claim. Withdrawal of the instant rejection is respectfully requested.

Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Yanagawa* in view of U.S. Patent Application Publication No. 2002/0040647 to *Song et al.* (hereinafter "*Song*"), and claim 20 stands rejected under section 103(a) as being unpatentable over *Yanagawa* in view of U.S. Patent Application Publication No. 2002/0044246 to *Moon et al.* (hereinafter "*Moon*"), for the reasons set forth on pages 7-8 of the Final Office Action.

In regard to *Song* and *Moon*, Applicants submit that neither of these references teach or suggest "a first pixel electrode formed in a pixel area defined by intersections of the gate line and the data line, said first pixel electrode formed substantially parallel to the gate line" or "a gate line formed on the substrate and extending in a first direction, wherein the gate line is bent at a positive or negative angle with respect to the direction of a rubbing direction on the substrate" as in claim 1. Therefore, the deficiencies of *Yanagawa* are not cured. Therefore, for at least the above reasons, claim 1 is patentable and non-obvious over the combination of *Yanagawa*, *Song* and *Moon*. Applicants submit that inasmuch as claims 15 and 20 are dependent on claim 1, and claim 1 is patentable and non-obvious over the cited references, claims 15 and 20 are patentable as dependent on a patentable independent claim. Accordingly, withdrawal of the instant rejections is respectfully requested.

Claims 1, 5-6 and 11-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0044249 to *Hirota* in view of *Yanagawa*.

With respect to claim 1, Applicants submit that neither *Hirota* nor *Yanagawa*, alone or in combination, teaches or suggests "the distance between the common signal line and the data line is shorter than the distance between the pixel signal line and the switching element". Therefore, for at least this reason, claim 1 is patentable and non-obvious over the combination of *Hirota* and *Yanagawa*.

Furthermore, Applicants submit that the rejections fail to set forth a *prima facie* case of obviousness. As discussed in MPEP § 2143.01, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the reference teachings. That is, something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. Applicants submit that there is no motivation or suggestion to combine the teachings of *Hirota* and *Yanagawa*.

In the Final Office Action, the Examiner asserts that the motivation to combine the two references arises from the *Yanagawa* reference "since *Yanagawa et al.* teach that by forming capacitor electrodes in the pixel area helps to improve the data retentivity

(Paragraph 0054)." However, Applicants submit that there is no suggestion or motivation to combine the teachings of these references to arrive at the claimed invention because *Yanagawa* teaches away from Applicants' invention. Applicants note that *Yanagawa* discloses in the cited paragraph: "[a] capacitance *Cadd* consists of the pixel electrode 5, the counter voltage line 4 and the gate insulator. *To form the capacitance Cadd on the counter voltage line 4, the capacitance Cadd can be larger than any region in a pixel.* The capacitance *Cadd* functions to improve the data retentivity" (emphasis added). This teaches away from "a first capacitor electrode formed in the pixel area connected to the pixel signal line; a second capacitor electrode formed in the pixel area connected to said common signal line"; as in claim 1. In view of the foregoing, Applicants submit that the rejection fails to set forth a *prima facie* case of obviousness.

Even assuming *arguendo* some teaching, suggestion, or reason to combine the references, neither of the cited references teaches or suggests "the distance between the common signal line and the data line is shorter than the distance between the pixel signal line and the switching element", as in claim 1. Therefore, for at least the above reasons, claim 1 is patentable and non-obvious over the combination of *Hirota* and *Yanagawa*. Moreover, Applicants submit that inasmuch as claims 5-6 and 11-12 are dependent on claim 1, and claim 1 is patentable and non-obvious over the cited references, claims 5-6 and 11-12 are patentable as dependent on a patentable independent claim. Withdrawal of the instant rejections is respectfully requested.

Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Hirota* and *Yanagawa* in view of U.S. Patent No. 6,806,930, issued to *Moia et al.* (hereinafter "*Moia*").

In regard to *Moia*, Applicants submit that it does not teach or suggest "the gate line is bent at a positive or negative angle with respect to the direction of a rubbing direction on the substrate", as in claim 1. Therefore, the deficiencies of *Hirota* and *Yanagawa* are not cured. Applicants submit that inasmuch as claim 13 is dependent on claim 1, and claim 1 is patentable and non-obvious over the cited references, claim 13 is patentable as dependent on a patentable independent claim.

Furthermore, Applicants submit that the rejection fails to set forth a *prima facie* case of obviousness. To render a claim obvious, every element of the claim must be taught or suggested by at least one of the appropriately combined references, such that the invention as a whole would have been obvious to one of ordinary skill in art. Applicants respectfully submit that there is no suggestion or motivation to combine the teachings of *Hirota* and either of *Yanagawa* or *Moia*. Applicants note that it is inappropriate hindsight to look back through Applicants' disclosure and declare claim limitations obvious where such declarations can only be guided by Applicants' disclosure. The Examiner appears to have engaged in this impermissible hindsight reconstruction as to claim 13. Therefore, for at least the above reasons, claim 13 is patentable and non-obvious over the combination of *Hirota*, *Yanagawa* and *Moia*. Withdrawal of the instant rejection is respectfully requested.

In view of the foregoing, the rejections under 35 U.S.C. § 103(a) should be withdrawn.

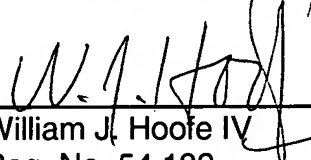
Entry of this amendment is earnestly solicited and it is respectfully submitted that the amendment raises no new issues requiring further consideration and search, because dependent claims 4 and 6 now added to claim 1 were previously searched and considered.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance. Issuance of a Notice of Allowance is respectfully requested.

Respectfully submitted,

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